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Heart Failure

USEFULNESS OF ULTRASOUND LUNG COMETS OBTAINED BY A POCKET-SIZED ULTRASOUND DEVICE IN SITTING OUTPATIENTS

Poster Contributions
Poster Sessions, Expo North
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Session Title: New Diagnostic and Imaging Strategies in Heart Failure
Abstract Category: 15. Heart Failure: Clinical
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Background: Ultrasound lung comets (ULCs) are a sign of extravascular lung water and useful for diagnosis of heart failure. However, it is not known whether ULCs can be assessed in sitting outpatients by a pocket-sized ultrasound device (PSU).The aim of this study is to evaluate the accuracy of ULCs in a sitting position for diagnosis of heart failure with reference to serum brain natriuretic peptide (BNP) levels.

Methods: One hundred and seven consecutive patients with known or suspected cardiovascular disease were examined by a PSU (Vscan: GE medical systems). The ULC score was the sum of the points where ULC was observed among a total of 10 points on the chest wall. Serum BNP levels was measured on the same day.

Results: Heart failure was confirmed in 14 patients and ruled-out in 93 based on the Framingham criteria. The ULC scores and Serum BNP levels showed significant positive correlation ($r= 0.68$, $P<0.01$).The receiver operating characteristic analysis showed an area under the curveof 0.896 for ULCs and 0.872 for BNP in diagnosis of heart failure.

Conclusion: The ULCs evaluated in the sitting outpatients by PSU could be a surrogate of serum BNP levels and offer an useful tool for diagnosis of heart failure in the clinic.